

Notice of Allowability

Application No.

10/727,636

Examiner

Anthony Mackowey

Applicant(s)

IWAMURA ET AL.

Art Unit

2624

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment filed 26 April 2007.
2. ☒ The allowed claim(s) is/are 1-3 and 5-10; renumbered 1-9.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input checked="" type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date <u>20070604</u> |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____ |

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Brian Klock (Reg. No. 36,570) on June 1, 2007.

The application has been amended as follows:

In the Specification...

On page 3, delete lines 4-16 and replace with the following:

That is, an apparatus for embedding a digital watermark in a document image, comprising: outer shape extraction means for extracting outer shapes, which include a first outer shape in a first line, a second outer shape in a second line different from the first line, a third outer shape in the first line and a fourth outer shape in a long-third line different from the first line, of characters in the document image; and control means for controlling at least one of the outer shapes so that a parameter concerned with a distance between the first and the second outer shapes and a parameter concerned with a distance between the third and the fourth outer shapes are different from each other in correspondence with digital watermark information to be embedded, wherein each of the parameters is concerned with the distance calculated using left edges or right edges of each outer shape.

Art Unit: 2624

Delete page 3, line 20 through page 4, line 5 of the specification and replace with the following:

That is, an apparatus for extracting data embedded in a document image, comprising: outer shape extraction means for extracting outer shapes, which include a first outer shape in a first line, a second outer shape in a second line different from the first line, a third outer shape in the first line and a fourth outer shape in a third line different from the first line, of characters in the document image; and extraction means for comparing a parameter concerned with a distance between the first and the second outer shapes with a parameter concerned with a distance between the third and the fourth outer shapes, and extracting data corresponding to a comparison result of the parameters as data embedded in the document image, wherein each of the parameters is concerned with the distance calculated using left edges or right edges of each outer shape.

On page 4, delete lines 9-21 and replace with the following:

That is, a method for embedding a digital watermark in a document image, comprising: an outer shape extraction step of extracting outer shapes, which include a first outer shape in a first line, a second outer shape in a second line different from the first line, a third outer shape in the first line and a fourth outer shape in a third line different from the first line, of characters in the document image; and a control step of controlling at least one of the outer shapes so that a parameter concerned with a distance between the first and the second outer shapes and a parameter concerned with a distance between the third and the fourth outer shapes are different from each other in correspondence with digital watermark information to be embedded, wherein

Art Unit: 2624

each of the parameters is concerned with the distance calculated using left edges or right edges of each outer shape.

Delete page 4, line 25 through page 5, line 10 of the specification and replace with the following:

That is, a method for extracting data embedded in a document image, comprising: an outer shape extraction step of extracting outer shapes, which include a first outer shape in a first line, a second outer shape in a second line different from the first line, a third outer shape in the first line and a fourth outer shape in a third line different from the first line, of characters in the document image; and an extraction step of comparing a parameter concerned with a distance between the first and the second outer shapes with a parameter concerned with a distance between the third and the fourth outer shapes, and extracting data corresponding to a comparison result of the parameters as data embedded in the document image, wherein each of the parameters is concerned with the distance calculated using left edges or right edges of each outer shape.

In the Claims...

- Cancel claims 4, 11 and 12.
- In claim 5, line 1, delete "claim 4" and replace with --claim 1--.
- Amend claim 9 to recite as follows:

A program embodied in a computer-readable memory medium for making a computer execute the digital watermark embedding method of claim 7.

- Amend claim 10 to recite as follows:

A program embodied in a computer-readable memory medium for making a computer execute the digital watermark extraction method of claim 8.

Reasons for Allowance

The following is an examiner's statement of reasons for allowance:

Claims 1 and 7 recite, "outer shape extraction means (step) for extracting outer shapes, which include a first outer shape in a first line, a second outer shape in a second line different from the first line, a third outer shape in the first line and a fourth outer shape in a long-third line different from the first line, of characters in the document image; and control means (step) for controlling at least one of the outer shapes so that a parameter concerned with a distance between the first and the second outer shapes and a parameter concerned with a distance between the third and the fourth outer shapes are different from each other in correspondence with digital watermark information to be embedded."

Claims 6 and 8 recite, "outer shape extraction means (step) for extracting outer shapes, which include a first outer shape in a first line, a second outer shape in a second line different from the first line, a third outer shape in the first line and a fourth outer shape in a third line different from the first line, of characters in the document image; and extraction means (step) for comparing a parameter concerned with a distance between the first and the second outer shapes with a parameter concerned with a distance between the third and the fourth outer shapes, and extracting data corresponding to a comparison result of the parameters as data embedded in the document image."

The above features, as explicitly recited, in combination with the other elements of the claims are neither disclosed nor suggested by the closest prior art of record. United States Patent 6,086,706 to Brassil et al. at first glance appears to teach a word shifting technique that would anticipate claims 1 and 7 (Fig. 8; col. 7, lines 46-56). However, the two lines shown in the figures are merely illustrating how the word shifted line appears natural to the untrained eye. Brassil et al. does not disclose or suggest the details of identifying characters in different lines and changing the distance between a pair of characters in relation distance between another pair of these characters to embed watermark information as required by the claims. Brassil et al. merely discloses shifting a word or line up, down, left or right in order to embed information.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Contact Information

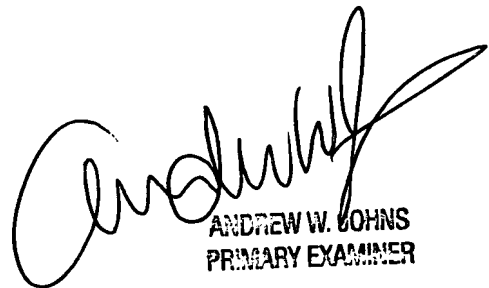
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anthony Mackowey whose telephone number is (571) 272-7425. The examiner can normally be reached on M-F 9:00-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bella Matthew can be reached on (571) 272-7778. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2624

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AM
6/5/07



ANDREW W. JOHNS
PRIMARY EXAMINER